



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,333	08/04/2001	Zhenjun Diwu	2081.0	7310

23358 7590 02/26/2003

ALLEGRA HELFENSTEIN  
MOLECULAR PROBES, INC  
4849 PITCHFORD AVE.  
P.O. BOX 22010  
EUGENE, OR 97402

EXAMINER

POWERS, FIONA

ART UNIT

PAPER NUMBER

1626

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/922,333

Applicant(s)

DIWU ET AL.

Examiner

Fiona T. Powers

Art Unit

1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2002 and 19 December 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22, 24-44 and 46-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40-44 and 46-54 is/are allowed.
- 6) ☒ Claim(s) 22, 24, 25 and 28-33 is/are rejected.
- 7) ☒ Claim(s) 26, 27 and 34-39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1626

Receipt is acknowledged of the amendment filed December 19, 2002, which has been entered in the file.

Applicant's election with traverse of Group V in Paper No. 7 is acknowledged. The traversal is on the ground(s) that Groups I to V should be rejoined because Group I represents compounds which are intermediate compound used to synthesize the compounds of Groups II, III, IV and V. This is not found persuasive because the compounds of Group I have a separate utility other than to make the compounds of Groups II, III, IV and V. The compounds of Group I can be used to make compounds which are structurally different from the compounds of Groups II, III, IV and V.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1 to 21 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

The method claims of Group VI (claims 40 to 44 and 46 to 48) will be regrouped with the elected compound claims of Group V (claims 22 and 24 to 39). New claims 49 to 54 drawn to a kit for staining a sample will also be examined with the elected claims.

Art Unit: 1626

The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no antecedent basis in the specification for the new formula which was inserted in claim 22. The bonding in the formula is different from the bonding in the formula shown on page 21, lines 10 to 14.

The following is a quotation of the second paragraph of 35

U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1626

The use of the term "comprising a" in a compound claim is indefinite since the structural formula represents complete compounds and not radicals it is not known how the compound can comprise something else since there is no free valence to bond anything else. To overcome this rejection the term "comprising a" should be changed to -of the-.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (US 6080852), cited.

The reference discloses the claimed compound wherein Q is  $CR^{28}$ ,  $R^{28}$  is the phenyl radical wherein  $R^{30}$  is carboxylic acid group,  $R^{34}$  and  $R^{31}$  are Cl and one of  $R^{32}$  and  $R^{33}$  is carboxylic acid and the other is hydrogen,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^6$ ,  $R^{41}$ ,  $R^{42}$ ,  $R^{43}$ ,  $R^{44}$  and  $R^{46}$  are hydrogen,  $R^5$  and  $R^{45}$  are methyl, one of E and X is  $CR^1=CR^2$  and one of E' and X' is  $CR^1=CR^2$  where  $R^1$  and  $R^2$  are hydrogen. Note Example 4.

Art Unit: 1626

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 22, 24, 25 and 28 to 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 6080852).

Determination of the scope and content of the prior art (MPEP §2141.01)

The reference discloses structurally similar compounds which are used to dye nucleotides and in polynucleotide sequencing. Note Example 4.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The claimed compounds which are position isomers, homologs or close structural analogs of the compounds disclosed by the reference would have been rendered obvious. For example, the claimed compound which is like the compound of Example 4 of the reference except that the methyl groups are replaced by ethyl groups is a homolog.

The compounds of the reference also differ from the compounds of claims 25 and 28 to 33 in that they are not specifically substituted with a group L-S<sub>c</sub> where S<sub>c</sub> is a protein,

Art Unit: 1626

polypeptide, nucleoside, nucleotide or polymer. However, the reference discloses that the dyes can be linked to a proteins, polypeptides, nucleosides, nucleotides and polymers. Note column 11, line 40 to column 16, line 2.

*Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)*

One of ordinary skill in the art would have been motivated to make the claimed compounds with the expectation that additional compounds useful for the dyeing of nucleotides and in polynucleotide sequencing would be obtained.

Claims 40 to 44 and 46 to 54 are allowed.

Claims 26, 27 and 34 to 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The references made of record and not relied upon show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is 703-308-4535. The examiner can normally be reached on Monday - Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be

Art Unit: 1626

reached on 703-308-4537. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4556 for regular communications and 703-308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

*Fiona T. Powers*

Fiona T. Powers  
Primary Examiner  
Art Unit 1626

ftp  
February 21, 2003